

In the United States Patent and Trademark Office

Serial No. \_\_\_\_\_

Appn. Filed : \_\_\_\_\_

Applicant: Vladimir Mordekhay

Appn. Title: A SYSTEM OF SAMPLE MEDIUM CARRIERS WITH BUILT-IN  
MEMORY ELEMENTS AND INFORMATION INPUT/OUTPUT STATION FOR  
THE CARRIERS

Examiner/GAU: \_\_\_\_\_

Mailed: *July 21/03*  
At: *San Carlos*

Information Disclosure Statement

Assistant Commissioner for Patents

Washington, District of Columbia 20231

Sir:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon. Following are comments on references pursuant to Rule 98:

U.S. Reissued Patent RE 37,485 filed by Marvin L. Vestal and published on December 25, 2001 discloses a mass spectrometer with sample supports in the

form of thin, substantially square plates of stainless steel or other suitable materials. The system is equipped with a support transport mechanism working in vacuum and intended for automatically inputting and outputting each of the sample supports into and from the sample receiving chamber of the mass spectrometer. For loading to the mass spectrometer, a sample support is rigidly attached to a ferromagnetic material handle, which is used to engage an electromagnetic device for the purpose of transporting the sample plate between component systems. A disadvantage of the aforementioned system is that the sample supports are not protected from possible damage and contamination by grippers or other plate handling mechanisms.

U.S. Patent Application No. .... of the same applicant discloses a system in which the sample plates are inserted into sample plate carriers so that handling mechanisms come into contact with the carriers rather than with the sample plates themselves. The sample plate carrier has a set of slots and openings for engagement with actuating members of the grippers or other handling mechanisms. Information about individual positions of the holders is stored in the memory of a common central processing unit, which also controls operation of all actuating mechanisms of the aforementioned modules. In other words, the aforementioned carriers only hold the sample plates with multiple sample cells and do not carry any address information or data about the samples or sample plate carriers themselves or about the analysis history, etc. However, when a large number of samples is to be analyzed with the use of automatic loading/unloading devices such as industrial robots or the transportation system of the type described in the aforementioned patent application, it becomes difficult to analyze different samples by different methods, as well as to keep the correct data regarding the sample history and location of various sample plates in the cells of the sample storage device. It is also difficult to keep information on the exact location of the samples on the respective sample plates.

U.S. Patent No. 6,064,754 issued on May 16, 2000 to R. Parekh, et al. discloses a computer-assisted methods and apparatus for identification and characterization of biomolecules in a biological sample by providing the sample holders with a permanent bar code, which may simplify tracking between the sample and the generated data. However, using this approach, it is still possible to misalign data because the sample plate carriers can be reusable and the holders with the same permanent bar codes could be used for carrying different samples for analysis at different time.

Finnish company Oy Ideos, Ltd. produces state-of-the-art identification and data collection system. A removable bar code sticker attached to the sample plate is used to uniquely identify the plate holder for specific sample plate and for specific type of analysis. However, it may be more difficult to clean such plate holders for reusing. Furthermore, an undesired situation may occur when the bar code sticker is separated from the holder during handling.

The aforementioned Finnish company Oy Ideos, Ltd. also produces manually handled carriers for blood analysis (phlebotomy) samples. All appropriate information is sent to the laboratory by the re-usable sample plate carriers that will replace requests, which normally have been written on paper. The data is written on memory built into an RF ID board. Although the aforementioned system of manually-handled carriers with a built-in memory is efficient and convenient due to wireless access to the memory of the carrier for reading/writing the information, the carriers of the aforementioned type use RF communication and should have relatively large dimensions. They are intended for manual transportation, handling, loading, and unloading into a blood-analysis control system installed in a laboratory. In other words, the phlebotomic sample plate carriers of Oy Ideos, Ltd. is inapplicable for genomic studies, where thousands

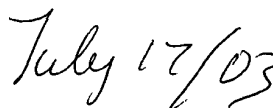
of samples have to be treated during a short period of time on a series of sequentially arranged units of biomedical analytical equipment.

Thus, none of the references mentioned above discloses, as claimed in my main Claim 1 with dependent Claims 2-8, a method for providing a selective input and output of information into and from a memory element built into each sample plate carrier with a built-in memory element for inputting/outputting related information and with a set of holes and slots for interaction with the carrier handling mechanisms. Furthermore, none of the aforementioned references discloses, as claimed in my main Claim 9 with dependent Claims 10 to 33 and in my main Claim 34 with dependent Claims 35-41, a sample plate carrier that carries a sample and is provided with a built-in memory element for inputting/outputting related information and with a set of holes and slots for interaction with the carrier handling mechanisms.

Respectfully,  
Applicant



Vladimir Mordekhay c/o Valentin Balter  
Automated Biotechnology, Inc.  
1045 Lassen Drive  
Menlo Park, CA 94025  
Tel. 650- 8542202



*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

|  |  |    |  |                          |                    |
|--|--|----|--|--------------------------|--------------------|
| Substitute for form 1449B/PTO  |  |    |  | <b>Complete if Known</b> |                    |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(Use as many sheets as necessary)</i> |  |    |  | Application Number       |                    |
|  |  |    |  | Filing Date              |                    |
|  |  |    |  | First Named Inventor     | Vladimir Morduchay |
|  |  |    |  | Art Unit                 |                    |
|  |  |    |  | Examiner Name            |                    |
|  |  |    |  | Attorney Docket Number   |                    |
| Sheet  |  | of |  |                          |                    |

[illegible]

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
|-----------------------|--|--------------------|--|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*